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ABSTRACT

This study examines the effects of the 1979 Oregon Property Tax Relief Plan on 1980-81 school district budget decisions by comparing the available tax relief, the school expenditures, and the tax levies in the state for the years 1975-81. The history of direct and indirect property tax relief in Oregon is sketched for the years prior to 1979; the authors also trace the growth of the state's Basic School Support Fund and the pressures for substantial direct tax relief during a period of surplus in Oregon's general funds. In the midst of dwindling state resources, however, most Oregon school districts studied here (enrolling 83 percent of all students) were found to have increased their tax levies and current expenditures per pupil in 1980-81, the year after the state's direct tax relief program began. It was found that local districts had applied the 1979 tax relief measure almost exclusively to increasing school support rather than to lowering property taxes. But the authors note that indirect tax relief in the form of general state aid to schools (a plan viable in Oregon for only 1 year), provided property tax reduction with a moderate increase in school spending. (JW)

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Division of Educational Policy and Management

August 1983

EFFECTIVENESS OF PROPERTY TAX RELIEF IN OREGON

Property Tax Relief! This has become the battle cry of angry taxpayers across the nation. Beginning in California in 1978 with the success of Proposition 13 and moving across the country to Massachusetts with Proposition 2-1/2, the property tax limitation movement has had a major impact on state and local governments' finances. Even where a formal tax limitation measure has failed at the polls, the strength of its showing has often spurred state legislators into taking some action to alleviate the citizen pressure for property tax reduction or limitation.

Such a response was certainly evident in Oregon. One year after Proposition 13, while enjoying a substantial state surplus, the Oregon Legislature enacted the 1979 Property Tax Relief Plan. This complex piece of legislation provided for: (a) direct property tax relief to homeowners in the form of a state payment of 30 percent of qualifying property taxes up to a maximum of $800 (property taxes on business property were excluded from relief); (b) an equivalent of the 30 percent property tax relief for renters; (c) a limitation of the increase in property taxes which the state would partially finance; and (d) a 5 percent limit on the annual increase of assessed property value statewide.[1]

The 1979-81 biennial appropriation for the Property Tax Relief Plan was $300.7 million.[2] Since school levies made up nearly 63 percent of statewide property taxes,[3] approximately $190 million of the Property Tax Relief Plan consisted of indirect state aid to school districts through the 30 percent property tax relief guarantee to homeowners and renters. This $190 million indirect state support of schools represented almost an additional 25 percent beyond the approximately $800 million of direct state

aid to school districts in the Basic School Support Fund (BSSF) in the 1979-81 biannual appropriation.[4] Further, the $190 million amounted to almost 9 percent of the $2,126 million in school district current operating expenditures in 1979-81.[5] In whatever terms, the amount of money involved was significant both for the state and for the school districts and was expected to have important effects on school district taxing and spending decisions.

One aspect of these changes is particularly striking. Since the passage of the 1979 Property Tax Relief Plan, the annual growth rate of school property tax levies in Oregon has been even greater than ever before.

Annual Growth Rates for School Property Tax Levies[6]

Before 1979 PTR Plan			After 1979 PTR Plan		
1977	1978	1979	1980	1981	1982
8.9%	1.6%	0.9%	3.7%	17.1%	20.0%

While many factors were undoubtedly at work over the period, including the constant pressure of inflation, this occurrence raises the question of whether the state property tax relief money has been used to reduce local tax burdens or to increase state support to schools.

To examine this question a study was undertaken to identify the impact of the 1979 Oregon Property Tax Relief Plan on 1980-81 school district budget decisions. The budget decisions of interest were both property tax levies and current expenditures. In specific, the study examined

(1) whether the historical pattern of school district budget decisions changed following the 1979 Property Tax Relief Plan;

(2) to what extent the 1979 Property Tax Relief Plan explained variations in school district budget decisions beyond other influencing factors, such as previous budget decisions, property assessed value, average teacher salary, teacher-pupil ratio, number of pupils, state aid, federal aid, other revenues, and percent of levy requiring voter approval;

(3) how state property tax relief money was used: to relieve the local tax burden or to increase state support of schools.

Direct and Indirect Property Tax Relief in Oregon Prior to 1979

Oregon has had a history of property tax relief efforts, focusing since the beginning of the 1970s on residential property tax relief. The 1971 Homeowners Property Tax Relief (HOPTR) was a major modification of an earlier Senior Citizens Relief Program (1963). Under HOPTR, property tax relief was available to all low income homeowners with no limitations by age. In 1973, Oregon adopted a "circuit breaker" property tax relief program called the Homeowners and Renters Refund Program (HARRP), as an expansion of the 1971 HOPTR.[7]

During the 1970's Oregon school districts became more reliant on general state support as the proportion of expenditures funded by the state Basic School Support Fund grew from 24.5 percent in 1969-70 to 38.6 percent in 1979-80 (see Table 1). Increasingly, the BSSF was used to provide an indirect form of property tax relief using state funds to replace what would have been required from local property taxes. (It is also possible that additional state funds induced higher expenditure levels.) However, as an indirect property tax relief measure, the increased state aid appears to have had a one year effect during this period. The only three years in which there was little or no growth in the property tax--1973-74, 1977-78, and 1978-79--were those in which there was a substantial jump in the proportion of total expenditures supported by the BSSF. If the state share did not continue growing, school property tax levies again grew substantially the following year. Further the decrease in the state share in 1980-81 and

Table 1

Oregon Basic School Support Fund (BSSF), School District Current Expenditures and Property Tax Levies

Year	S.D. Current Operating Expenditures (General Fund)		BSSF		BSSF % of S.D. Current Operating Expenditures	S.D. Property Tax Levies	
	Amount ($1,000)	Annual % Increase	Amount ($1,000)	Annual % Increase		Amount ($1,000)	Annual % Increase
1969-70	$363,633	11.7%	$88,928	14.8%	24.5%	$307,376	11.8%
1970-71	398,013	9.5%	88,928	0.0%	22.3%	341,438	11.1%
1971-72	421,635	5.9%	99,428	11.8%	23.6%	364,533	6.8%
1972-73	459,210	8.9%	104,053	4.7%	22.7%	394,762	8.3%
1973-74	505,138	10.0%	143,520	37.9%	28.4%	394,443	0.0%
1974-75	579,991	14.8%	170,708	18.9%	29.4%	458,934	16.3%
1975-76	659,718	13.7%	200,732	17.6%	30.4%	521,257	13.6%
1976-77	716,519	8.6%	217,445	8.3%	30.3%	567,762	8.9%
1977-78	777,130	8.5%	269,000	23.7%	34.2%	577,243	1.7%
1978-79	883,324	13.7%	341,373	26.9%	38.4%	575,870	0.0%
1979-80	993,146	12.4%	383,043	12.2%	38.6%	597,366	3.7%
1980-81	1,132,706	14.1%	406,376	6.1%	35.9%	699,272	17.1%
1981-82	1,248,596	10.2%	413,959	1.7%	33.2%	839,280	20.0%

Note: S.D. is School District

Source: Oregon Department of Education, "Audited Current Expenditure for Resident Students," various years; Oregon Department of Revenue, Oregon Property Tax Statistics, various years.

1981-82 (although actual dollars increased) was matched with very large increases in property tax collections to fund substantial expenditure increases.

As part of the indirect approach to assist districts in providing property tax relief, the 1977 Legislature appropriated funds for the BSSF to raise the level of state support of school districts' current operating expenditures to 40 percent. However, in 1979, the Legislature heard two opposing complaints about the general state aid to local school districts from the BSSF. School districts objected that the state had not met its 40 percent commitment (38.4% in 1978-79 and 38.6% in 1979-80) and asserted that additional general state aid was required. In contrast, others characterized the BSSF as a "bottomless bucket."[8] It was described as an ever-increasing drain on the General Fund as the state attempted to provide a fixed percentage of rapidly rising local school costs.

The causes of the complaints are seen in Table 1. Throughout the 1970's, district expenditures grew at a steady and fairly high rate, averaging 10.6 percent compounded over ten years. Direct state aid to schools (BSSF) grew at a compounded rate of 15.7 percent over the same time period, although in a more erratic manner. The reason that the state support did not reach the intended 40 percent level in 1978-79 and 1979-80 is that district expenditures grew at a greater rate than expected in those years (13.7 percent and 12.4 percent respectively); and the biennial appropriations, made in 1977, turned out to be less than 40 percent of the actual expenditures.

In an effort to control state expenditures, the 1979 Legislature placed a limit on the growth of state aid. Instead of paying 40 percent of actual statewide school district operating costs, the state law was amended to base the percentage of state school support on a legislatively determined

amount per pupil. The starting point was 40 percent of the 1979-80 statewide average cost per pupil of $2,124. In future years the amount per pupil was to be adjusted by the CPI (Portland Consumer Price Index), or a maximum of 9 percent, whichever was less. As district current operating expenditures have grown at a rate greater than 9 percent annually, the result has been an increased use by schools of the property tax to keep expenditures even with or ahead of rising costs.

Property taxes in Oregon became a publicized cause for concern in the late 1970s. (This feeling may well have been more perceived than real, however, since in the two years before the Property Tax Relief Plan was enacted, the growth of property taxes was negligible.) Nevertheless, taxpayers in Oregon have continuously borne a greater degree of property tax burden than the national average, with the property tax amounts per capita ranked 12th nationally in 1979-80.[9]

The burden of personal income tax was even heavier. In 1979-80, Oregon's personal income tax burden measured either per capita or per $1,000 personal income was ranked second in the nation. Nevertheless, a comparison using the 1979-80 total state and local tax collections indicates that Oregon was close to the national average: it was ranked twenty-first in terms of per capita measures and twenty-third in terms of personal income measures.[10] The reason for the approximately average total tax burden is that Oregon is one of five states without a sales tax. The higher burden of property tax and personal income seems inevitable in a state not utilizing a sales tax.

The property tax burden in Oregon during the last two decades has steadily shifted from personal and utility property to real property. The proportion of real property rose to 78.8 percent of all taxable assessed value in 1976, from 67.9 percent of the total in 1956 and 75.4 percent in

1966. Within the category of real property, residential property has received an increasing share of the tax burden. Table 2 shows the shift to real property in general and the shift to residential property in particular.

Prior to 1979, Oregon had made several efforts to reduce the growing property tax burden of homeowners although these were generally of a limited or indirect nature. The political backing by the governor and legislators for the 1979 Property Tax Relief Plan was strong because it had been part of their 1978 campaign platforms. Meanwhile, under the influence of California's Proposition 13, there was a keen appreciation of the public's interests and attitudes about property tax relief. These factors led to a substantial 9-to-1 margin of voter approval for the relief plan in May 1979. Nevertheless, a property tax relief plan of this magnitude would not have been possible were it not for the $273 million surplus in the State General Fund. This state surplus was viewed as the perfect buffer since "it was already separated from taxpayers and appeared as sitting ducks whose feathers were plucked with a minimum of hissing."[11] The importance of state surplus for the relief plan was both political and fiscal. Without this surplus, the political and fiscal questions would have been: "What tax source will support relief?" and "Who bears the tax burden?" Unfortunately, four years later in the midst of a statewide economic recession, these are just the questions the 1983 state legislature is wrestling with as they struggle to maintain a property tax relief program for Oregon.

Study Design

In order to study the responses of Oregon school districts to the 1979 Property Tax Relief Plan, an investigation was made of both the current expenditure levels and tax levies for the years 1975-76 through 1980-81 (the

Table 2

Gross Assessed Value of Property Subject to Local General Property Taxation: Oregon
(Selected Years)

Property Class	1956	1966	1976
Personal Property	19.6%	12.9%	12.6%
Utility Property	12.6%	11.7%	8.7%
Real Property			
Residential	31.4%	39.9%	41.1%
All Other	36.5%	35.5%	37.7%
Total Real Property	67.9%	75.4%	78.8%
Total	100.0%	100.0%	100.0%

Source: Bureau of Governmental Research and Service, Background Information on the Oregon Property Tax (Eugene, Oregon, 1978), p. 32, Table 13.

first year following passage of the 1979 Property Tax Relief Plan and the latest year for which data were available). School districts included in the study were those that met the following two criteria: property tax relief data for 1980-81 were available from the Oregon Department of Revenue and enrollment in school year 1979-80 was greater than one hundred students.

Of Oregon's 312 school districts, 252 had property tax relief data available. Of these 252 districts, 193 had enrollments of more than one hundred students and were included in the study. These 193 school districts were drawn from 31 of the 36 counties in the state. No major population centers were excluded using these criteria. As shown in Table 3, 83 percent of the students in the state were included in the study and they came from 62 percent of all school districts and 82 percent of districts with more than one hundred students.

Changes in Historical Fiscal Patterns

The first analysis in the study was to examine whether or not the historical pattern of school budget decisions changed in the year following the introduction of the 1979 Property Tax Relief Plan. Separate analyses were conducted for tax levies and for current expenditures. In order to estimate what tax levies and current expenditures would have been without property tax relief, projections of the magnitudes of 1980-81 tax levy per pupil and expenditure per pupil were computed from the last five years' data (school years 1975-76 through 1979-80). Curvilinear prediction equations for tax levy per pupil and current expenditure per pupil were calculated using an exponential function which best fit the last five years' data. These prediction equations were used to predict the sixth year (1980-81) tax levy and current expenditure per pupil.

Comparisons were then made of the 1980-81 actual and projected values

Table 3

Selection of Oregon School Districts in Study Sample
(School Year 1979-80)

	State Total	In Study	% in Study
Number of Counties	36	31	86%
Number of Districts	312	193	62%
Number of Pupils	450,110	374,022	83%

ADM Groups	Districts State Total	Districts in Study	% of Districts in Each ADM Group in Study	% of All ADM in Study
3000-over	37	31	84%	16%
1000-2999	58	50	86%	26%
500-999	44	35	80%	18%
100-499	97	77	79%	40%
1-99	76	0	0%	0%
TOTAL	312	193	62%	100%

ADM Groups	ADM State Total	ADM in Study	% of Students in Each ADM Group in Study	% of All ADM in Study
3000-over	288,695	241,465	84%	65%
1000-2999	103,120	89,692	87%	24%
500-999	30,723	24,464	80%	6%
100-499	23,833	18,401	77%	5%
1-99	3,739	0	0%	0%
TOTAL	450,110	374,022	83%	100%

Note: ADM is the average daily membership (number of pupils).

Source: Oregon Department of Education, "1979-80 Audited Current Expenditure for Resident Students."

for both tax levy and current expenditure per pupil. An appropriate t-test was employed to examine whether a significant difference existed between the actual and projected 1980-81 budget outcomes.

The predicted value for tax levy was $1,419 per pupil while the actual value was $1,606 per pupil. Therefore, actual levy was $187 per pupil greater than the predicted levy. This difference was statistically significant and would not be expected to occur by chance. (Using a t-test, the difference is significant at the .05 level, or the probability of its occurring by chance is less than five percent.) These findings indicate that the historical pattern of school tax levy decisions significantly changed following the 1979 Property Tax Relief Plan. The 1980-81 school tax levy increments in Oregon went beyond the historically normal increments in the year following the introduction of property tax relief.

Figure 1 illustrates the trends of actual and predicted tax levy per pupil from 1975-76 through 1980-81. Actual and predicted values for each year are listed under the figure. The zigzag line of the actual tax levy per pupil from year to year suggests that a large levy increase was often followed by a small levy increase. However, the 1980-81 actual tax levy per pupil was far away from the predicted tax levy, illustrating a significant change in the historical school tax levy pattern following the 1979 Property Tax Relief Plan.

For current expenditures the predicted value was $2,508 per pupil, while the actual value in 1980-81 was $2,630 per pupil. Even though the actual amount exceeded the predicted value by $122 per pupil, this difference was not statistically significant.

Figure 2 illustrates the trends of actual and predicted current expenditure per pupil over the six-year period. A comparison with Figure 1 indicates that the relative deviation of the 1980-81 actual current

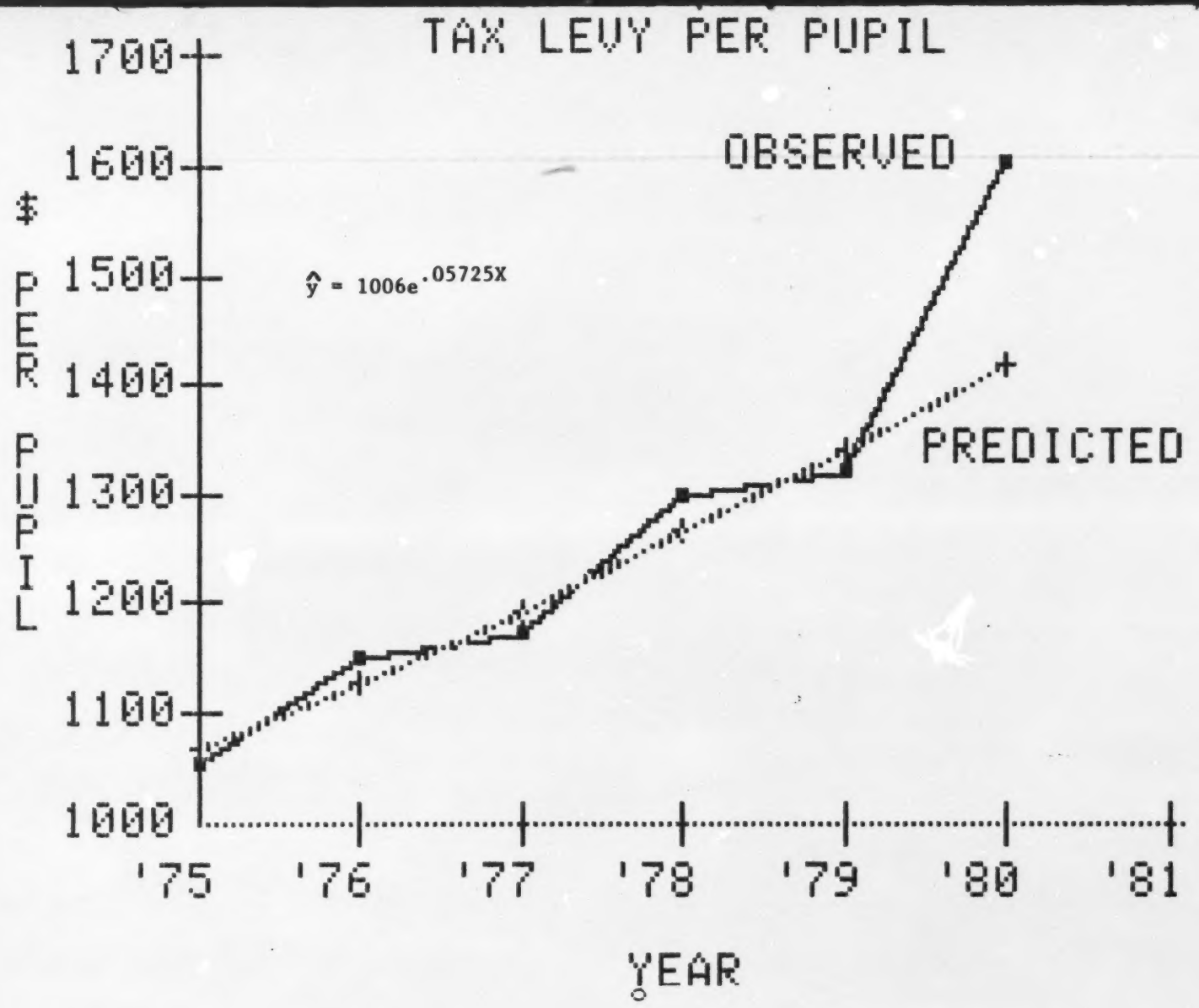

TAX LEVY PER PUPIL
OBSERVED
PREDICTED
$\hat{y} = 1006e^{.05725X}$
$ PER PUPIL
1700
1600
1500
1400
1300
1200
1100
1000
'75
'76
'77
'78
'79
'80
'81
YEAR

FIGURE 1

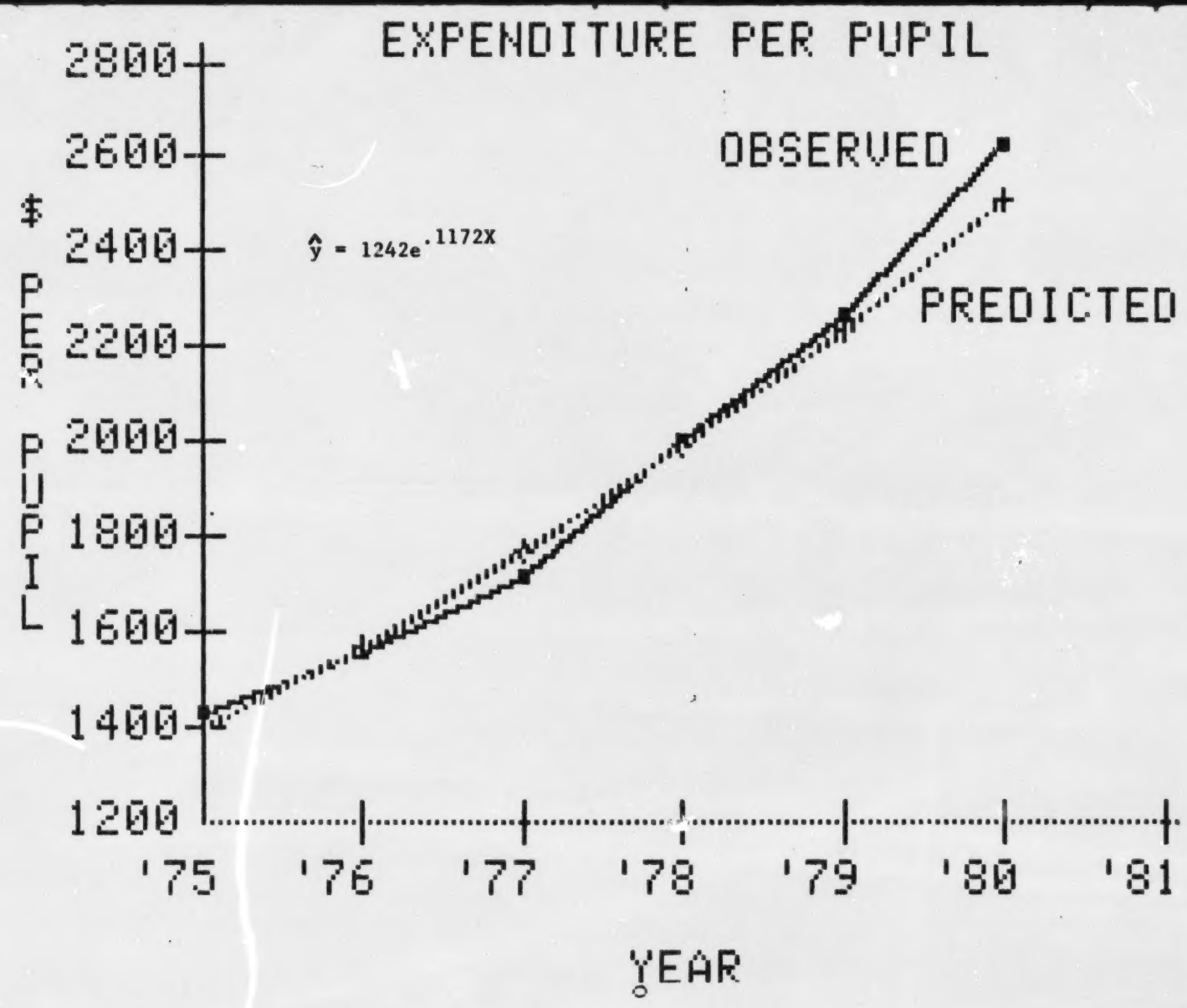

EXPENDITURE PER PUPIL
OBSERVED
PREDICTED
$\hat{y} = 1242e^{.1172X}$
$ PER PUPIL
2800
2600
2400
2200
2000
1800
1600
1400
1200
'75
'76
'77
'78
'79
'80
'81
YEAR

FIGURE 2

expenditure per pupil from the trend line was smaller than that of the tax levy per pupil. In other words, following the 1979 Property Tax Relief Plan, the historical pattern of school expenditure per pupil changed, but the magnitude of the increase was not statistically signficant.

Contribution of Property Tax Relief to Budget Decisions

The belief that property tax relief has an impact on school district budget decisions was based on the assumption that relief has a price effect, which reflects the reduction to the local district voters of the actual cost of education (i.e., the tax price). In other states, empirical results suggest that there is a negative relationship between tax price and school expenditures; that is, a decrease in tax price will induce an increase in school expenditures.[12] Following the Property Tax Relief Plan of 1979, the State paid 30 percent of the property taxes of homeowners and an equivalent amount for renters which represented a significantly lowered tax price of education. The responses of school districts and voters to this new factor of property tax relief--in the form of reduced property taxes, increased expenditures, or some combination of both--is the prime focus of this investigation.

In Oregon school districts three principal components have to be established in the development of an annual budget: total expenditures; revenues from sources other than current local property taxes; and the local property tax levy. The difference between the expenditures and other revenues determines the size of the school tax levy. Consequently, the budget decisions of interest in the study--current expenditure per pupil and tax levy per pupil--are influenced by the key factors which are used in developing total expenditure requirements and revenues from other sources.

The first factor is the incremental nature of budget decisions.

Previous year's tax levies and current expenditure levels serve as the baseline for the coming year's decisions.[13] Barring any unexpected events, school district tax levy and current expenditure goals tend to increase by some regular movement, driven primarily by inflationary price increases.

Within this general incremental change process, specific district characteristics affect the total expenditures that are required. Salary payments to teachers and other personnel represent the largest single expenditure item.[14] The number of pupils in a district and the teacher-pupil ratio determine the number of teachers to be employed. The district salary schedule along with the number of teachers yield the total salary costs of the district. Therefore, decisions regarding expenditure levels tend to be strongly influenced by average teacher salary, number of pupils, and teacher-pupil ratio.

On the revenue side of the budget, state aid, federal aid, revenues from intermediate sources, and other local non-property-tax sources make up the item of "total revenues except property taxes." Shrinkage in any of these revenues has to be replaced by local property taxes in order to maintain the same revenue level, while increases from these revenue sources could lower local property taxes or increase spending levels or result in some combination of these effects.

Another factor that also tends to influence budget decisions is district property wealth or the assessed value of taxable property in a school district. Empirical evidence from other states suggests that assessed value is positively related to expenditures per pupil.[15] That is, richer districts tend to have higher expenditure-per-pupil levels.

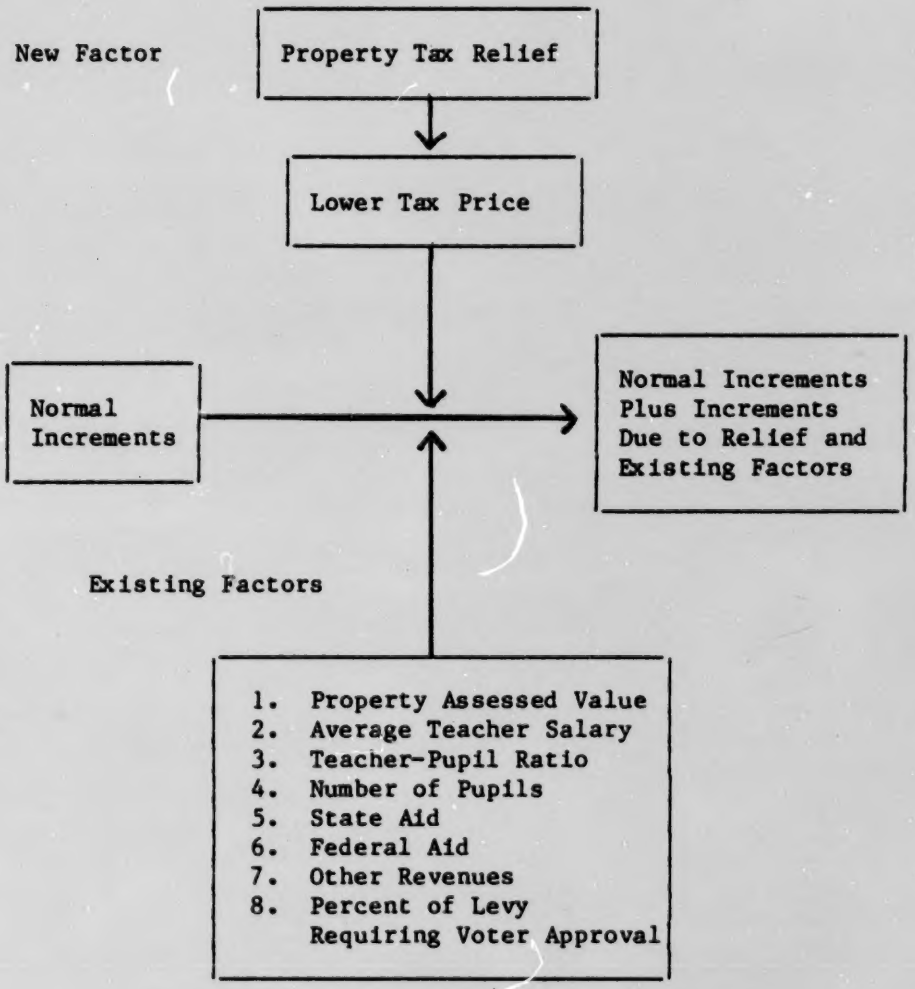
The percent of tax levy requiring voter approval was also considered a possible influence. Oregon's tax system includes a "tax base" for each

district, which is an amount, previously approved by district voters, that can be levied annually without further voter approval. In fact, a district can increase its tax base by 6 percent per year without requiring a further tax election. If the district's total required tax levy is less than or equal to its tax base, then it does not have to hold a tax levy election. Property tax levies that would exceed the district's allowable tax base must be approved by the voters annually.[16] As a result, districts with low or no tax bases have a large proportion of their budget voted on each year. For the purposes of this study it was assumed that voters would be less likely to approve large levy amounts than small ones. Consequently, those districts with a high proportion of their total levy (tax base plus annually approved amount in excess of the tax base) subject to yearly voter approval would have lower total tax levies and current expenditures than districts with a small or no annual levy.

To examine the impact of property tax relief and other factors on district budget decisions, an analytical framework of the budget process was established. A diagram of the framework is presented in Figure 3. In this analytical design the final budget decisions are a result of the normal increment for a district, existing district factors affecting the budget process, and any new factors which may disturb the normal budget decisions. There are three main features of this framework. First, it assumes that school district budget decisions are incremental and predictable from the historical patterns. Second, the introduction of the 1979 Property Tax Relief Plan is assumed to lower the tax price of school districts, but the responses to this new factor (relief) depend on districts' own existing factors. Finally, it assumes that budget increments due to the effect of property tax relief can be separated from the normal increments if there are no major changes in existing factors.

FIGURE 3

Analytical Framework for School Budget Decisions in Oregon



As applied in this analytical framework, the normal increments before the introduction of property tax relief were represented by the previous year's budget decisions--tax levy and current expenditure per pupil in 1979-80. The existing factors in the analysis included assessed value, average teacher salary, teacher-pupil ratio, number of pupils, state aid, federal aid, other revenues, and percent of levy requiring voter approval. Property tax relief was assumed to be a new factor which lowered the tax price of education to school district voters and could have induced school spending beyond the normal increments. Thus, in 1980-81, the first full operating year following introduction of the Property Tax Relief Plan, school district budget decisions can be regarded as a response to the normal budget increments modified by existing district characteristics plus increments caused by the new factor, property tax relief.

The statistical method used to explore this question was hierarchical regression analysis. Those factors affecting budget decisions and involved in the analytical framework were utilized in the regression equations. The definitions, calculation methods, and sources of all variables in this set of regression equations are given in Table 4. A separate regression analysis was performed for each budget decision of interest (dependent variable)--tax levy per pupil and current expenditure per pupil. The general forms of the regression equations were as follows:

$$\begin{aligned} LEVY = a &+ b_1 PLEVY + b_2 WEALTH + b_3 SALARY + b_4 RATIO \\ &+ b_5 ADM + b_6 BSSF + b_7 FEDERAL + b_8 OTHERS \\ &+ b_9 VOT + b_{10} RELIEF \end{aligned}$$

$$\begin{aligned} CE = a &+ b_1 PCE + b_2 WEALTH + b_3 SALARY + b_4 RATIO \\ &+ b_5 ADM + b_6 BSSF + b_7 FEDERAL + b_8 OTHERS \\ &+ b_9 VOT + b_{10} RELIEF \end{aligned}$$

Table 4

Variables in the Analysis of School District Budget Decisions

Variable	Definition (and calculation)	Source
LEVY	Property tax levy per pupil, 1980-81	BUD
CE	Current expenditure per pupil, 1980-81	EST
PLEVY	Previous year property tax levy per pupil, 1979-80	BUD
PCE	Previous year current expenditure per pupil 1979-80	EST
WEALTH	Property assessed value per pupil, 1980-81	EST
SALARY	Average teacher salary, 1980-81	SUR (EDU)
RATIO	Teacher-pupil ratio, 1980-81 = $\frac{\text{Number of full-time classroom teachers}}{\text{Number of pupils}}$	SUR (EDU)
ADM	Average daily membership (Number of pupils, 1980-81)	EST
BSSF	Basic School Support Fund per pupil, 1980-81	BUD
FEDERAL	Federal aid per pupil, 1980-81	BUD
OTHERS	Other revenues per pupil, 1980-81 = (Total Revenues per pupil) - BSSF - FEDERAL - LEVY	BUD
VOT	Percent of tax levy requiring voter approval, 1980-81 = $\frac{\text{Levy outside tax base}}{\text{Tax base} + \text{Levy outside tax base}}$	ELE
RELIEF	Property tax relief per pupil, 1980-81 = (Homestead assessed value/1,000) x (operating tax rate) x (.30)/(ADM)	REV (RAT)

Table 4 concluded

NOTE: BUD--A Summary of School District Budgets and Tax Extensions, (published by the Oregon Department of Education).

EST--Estimated Per Pupil Current Expenditures, (published by the Oregon Department of Education).

SUR--Survey of Salaries, Economic Benefits and Selected Policies for Teachers in Oregon School Districts, (published by the Oregon School Boards Association).

EDU--Number of Teachers and Average Salary, by District, (published by the Oregon Department of Education).

ELE--Summary of Local District Budget Elections, (published by the Oregon Department of Education).

REV--Table 1a, Detail of Code Area Real Property Assessed Valuations, (collected by the Oregon Department of Revenue).

RAT--School Finance Tax Rate Analysis, (published by the Oregon Department of Education).

In the hierarchical regression, the ten independent variables were entered into the regression equation by several steps. First, the previous year's levy or expenditure per pupil was entered into the equation since the analytical framework of budget decisions assumes that the current year's budget was primarily influenced by normal increments from the previous year's budget. In Step 2, the existing factors that conditioned the responses of district to property tax relief were entered into the equation. These variables were wealth, average teacher salary, teacher-pupil ratio, number of pupils, state aid from BSSF, federal aid, and other revenues. In Step 3, the percent of the tax levy requiring voter approval was added into the regression equation. This existing factor was isolated and given special attention because the introduction of the 1979 Property Tax Relief Plan had the potential of changing the proportion of levy requiring voter approval. In Step 4, the property tax relief was entered into the regression equation as the final factor.

The results of the regression equations for tax levy and for current expenditure per pupil for the 193 districts in the study are given in Table 5 and Table 6 respectively. For state aggregate results, the values for the unstandardized regression B coefficient, R square, and R square change are presented for each of the independent variables. The B coefficient indicates the expected change in the dependent variable (either tax levy or current expenditure per pupil) with a change of one unit in the independent variable. For example, an increase of $1.00 in the previous year's levy is calculated to result in an $0.89 increase in this year's levy (B = .89207). The R square is a measure of the proportion of variance in the dependent variable explained by the independent variable or variables. The R square change is the increment of the explained variance attributable to the additional independent variable or variables introduced into the regression equation.

Table 5

Regression for Levy Per Pupil: State Aggregate 1980-81
(193 school districts)

Variable	B	R^2	R^2 Change
Previous Year's Levy (per pupil)	.89207	.76642	
Assessed Value (per pupil)	.00047		
Average Teacher Salary	.03645		
Teacher-Pupil Ratio	7363.664		
Number of Pupils	-.00888	.80438	.03851*
State Aid (per pupil)	-.26445		
Federal Aid (per pupil)	.09494		
Other Revenues (per pupil)	-.00287		
% of Levy Requiring Voter Approval	-.78389	.80970	.00477*
Relief	.95969	.81724	.00754*
Constant	-521.4439		

*Significant at the .05 level.

Table 6

Regression for Expenditure Per Pupil: State Aggregate 1980-81
(193 school districts)

Variable	B	R^2	R^2 Change
Previous Year's Expenditure (per pupil)	.91817	.83808	
Assessed Value (per pupil)	.00056		
Average Teacher Salary	.02018		
Teacher-Pupil Ratio	8570.616		
Number of Pupils	-.00136	.87742	.03934*
State Aid (per pupil)	.19110		
Federal Aid (per pupil)	-.31783		
Other Revenues (per pupil)	-.00331		
% of Levy Requiring Voter Approval	.50146	.87867	.00125
Relief (per pupil)	.31031	.87988	.00121
Constant	-605.3974		

*Significant at the .05 level.

With regard to the contribution of the property tax relief factor to the explanation of variations in tax levy per pupil as shown in Table 5, the R square change (.00754) due to the relief was statistically significant beyond the .05 level. It means that on top of the 81 percent of variance in levy per pupil explained by the nine listed variables (cumulative R square value), an additional .75 percent was explained by the introduction of property tax relief. While the absolute amount of change was small, it was, nonetheless, a statistically significant increase and one unlikely to have occurred by chance in 1980-81.

On the other hand, the contribution of property tax relief to the explanation of variations in current expenditure per pupil was not found to be statistically significant at the .05 level. Consequently, the introduction of property tax relief had no statistically important impact on the current expenditure decisions of school districts in 1980-81.

Use of State Property Tax Relief Money

The final stage in the analysis investigated how state property tax relief money was used--either to relieve the local tax burden or to increase state support for schools. The analysis was done for the aggregate state results using the 193 districts in the sample. Since the effect of property tax relief on current expenditures per pupil was relatively small and not statistically significant, most of the analysis in this section concerned tax levy per pupil. However, the overall effect of "other factors," which included BSSF, was substantial and statistically significant. The analysis used the results from the previous regression equation for tax levy per pupil (Table 5) and current expenditure per pupil (Table 6) and focused on interpretation of the B coefficients of each of the explanatory (independent) variables.

To begin, there was a positive relationship between property tax relief and school tax levy (i.e., the B coefficient was positive). This indicates that an increase in property tax relief monies would cause an increase in the tax levy. The value of the B coefficient (.95969) indicates that for every dollar increase in state relief money, school tax levy increased $0.96, holding constant the other nine factors in the prediction equation. In other words, in 1980-81 state relief money was used almost exclusively to increase the support of education rather than to lower the property tax burden.

Meanwhile, district tax levy had a negative relationship with state aid and with other revenues. This implies that an increase in state aid or other revenues resulted in a decrease in tax levy or conversely that any shrinkage in state aid and other revenues was balanced by an increase in school levy. The B coefficient calculated in the study (-.26445) indicates that a dollar increase in state aid reduced school levy by $0.26. Hence, general state aid served as an indirect property tax relief measure.

On the other hand, federal aid had a positive relationship with district tax levels. Federal aid tended to increase districts' levies by about $0.09 for every federal dollar received. This reaction was probably caused by the non-supplanting regulations for federal aid and the districts' needs to raise revenue to fund costs mandated by federally mandated programs, but not covered by the federal aid received (e.g., the shortfall of P.L. 94-142 funds to support the additional costs of educating handicapped children).

The current year's tax levy was reasonably explained by the previous year's levy, indicating the importance of the incremental nature of tax levy decisions. The R square value (.76742) indicates that 76 percent of the variations in the current year's levy was attributable to the previous year's

levy. The B coefficient (.89207) indicated slightly less than a one-to-one correspondence with the previous year's levy.

As a result of associated changes in the fiscal election laws in 1979-80, the "percent of levy requiring voter approval" dropped after the introduction of the 1979 Property Tax Relief Plan. The contribution of the "percent of levy requiring voter approval" to the explanation of variations in school levy (R square change = .00477) was statistically significant at the .05 level. The B coefficient (-.78389) suggests that an increase of one percent in this factor induced a $0.78 decrease in levy per pupil. In other words, those districts with higher percentages of their tax levy requiring voter approval had lower increases in their total school levy.

Policy Implications

The analysis of the impact of property tax relief on school budget decisions provides a number of interesting policy implications for state decision-makers as well as for school budget-makers.

The 1979 Property Tax Relief Plan was created by the Oregon Legislature to provide 30 percent homestead relief (i.e., direct property tax relief). The findings of this study suggest that this goal was not achieved. The state relief monies were used to increase school levy as well as school spending. The aggregate state results indicate that $0.96 of each dollar in state relief money in 1980-81 went to increase state support to schools while only $0.04 went to lower the property tax burden. Further, for every dollar of property tax relief, school spending (current expenditures) increased by $0.31 (although this finding was not statistically significant).

The other form of property tax relief, general state aid to schools through the BSSF, was an indirect approach that substituted state funds for local property tax dollars. The statistical results indicate that for every

dollar increase in BSSF, school levy decreased $0.26 while school spending increased $0.19. Thus, the implication is that BSSF was a generally successful approach to providing property tax relief and moderately increasing school spending. However, historical data indicate that this method for property tax relief tends to be viable for only one year in Oregon. This one-year relief effect can be interpreted in several ways: (1) the increase in state aid in a given year replaced potential funds from local property tax levies and caused some local property tax relief for that year; (2) school districts often added the increased state support to the current budget level to build up a greater level for next year due to incremental budget decisions; or (3) additional state aid money tends to remain in school districts and hence increases their spending due to the "flypaper effect," in which money tends to stick in whichever sector, public or private, and level within that sector, it is first received.16

The comparison of the 1979 Property Tax Relief Plan and the BSSF indicates that BSSF was a better method of relief. This can be seen in the finding that a dollar increase of BSSF led to a $0.26 decrease in school levy whereas a one dollar increase of state property tax relief money induced a $0.96 increase in school levy. Second, BSSF resulted in better control of school spending since a dollar increase of BSSF yielded only a $0.19 increase, compared to the $0.31 resulting from a one dollar increase in state property tax relief money. These results have frustrated state policymakers in their efforts to provide direct property tax relief through the 1979 Property Tax Relief Plan.

The frustrating results can be explained in the following terms. With 30 percent fixed-rate relief, the 1979 Property Tax Relief Plan appeared to provide school districts with an unrestricted grant that was allocated on the basis of district's levies and residential property tax payments. Such

an unrestricted grant had two economic effects--price effects, which reflected reductions in the local education cost to school districts, and income effects, which reflected the additional funds available for school districts. In light of these two effects, the results of the 1979 Property Tax Relief Plan are readily understandable. Most school districts took advantage of relief to increase the property tax levy rather than to reduce the property tax burden by successfully convincing local voters that the state, through payment of 30 percent of homeowners' property taxes, would support the additional costs. Thus, the voters could raise school spending (and by inference, school quality) at no cost to themselves. Under the relief plan, state property tax relief payments flowed directly to local governments rather than to qualifying individuals. According to the flypaper hypothesis, different reimbursement arrangements would have different effects on local spending patterns, with reimbursement to local governments stimulating greater spending than reimbursement directly to individuals. Therefore, as this study found, the state relief monies were generally used to increase the support of education rather than to lower the property tax burden.

These results yield an important implication for state policymakers. Before the enactment of property tax relief programs, the state must clarify its intentions and decide whether it wishes to guarantee property tax relief by putting limitations on local governments' taxing and spending powers or to allow local governments to take advantage of the opportunity and use part or all of their new-found property tax capacity.

There is another implication for state policymakers in terms of financing substantial general tax relief. The ability to sustain a large shift of the local property tax load to the state level, particularly in difficult economic times, should be carefully considered. The state surplus

which funded the property tax relief payments in 1980-81 has disappeared. In the space of two years the state's economy has entered and remains in a severe recession. The effects of these fiscal constraints have been reflected in the property tax relief program. The maximum relief payment made under the Plan in the first year of its implementation, 1980-81, was $800 per homeowner. In 1981-82, the Legislature facing revenue shortfalls, cut the maximum amount to $425 for homeowners and from $400 to $212.50 for renters. In 1982-83 the maximum homeowner payment was further reduced to $215 by a special legislative session called to deal with continuing shortfalls in state revenues. In view of the decline of the relief payments, the destiny of Oregon's property tax relief program is inevitably tied to the state's economic situation, the ability or desire of school districts and the Legislature to control spending increases and consequently property tax increases, and the availability of other state revenue sources, such as a new sales tax, increases in personal and corporate income taxes, or other tax increases.

NOTES

1. Oregon Department of Revenue, "HB 2540, The Legislature's New Tax Relief Plan" (Salem, Oregon: Oregon Department of Revenue, n.d.).

2. Oregon Executive Department, Adopted Budget Sixtieth Legislative Assembly 1979-81 (Salem, Oregon: Oregon Executive Department, 1979), p. 6.

3. Oregon Department of Revenue, Oregon Property Tax Statistics (Salem, Oregon: Oregon Department of Revenue, 1980).

4. Oregon Executive Department, Adopted Budget.

5. Oregon Department of Education, "Audited Current Expenditure for Resident Students" (Salem, Oregon: Oregon Department of Education, 1979-80 and 1980-81).

6. Oregon Department of Revenue, Oregon Property Tax Statistics, 1977 through 1982.

7. Oregon Department of Revenue, 53 Years of Property Tax Relief in Oregon (Salem, Oregon: Oregon Department of Revenue, 1975).

8. Oregon Tax Research, Your Taxes 2 (September - October 1981).

9. U.S. Census Bureau, Governmental Finances (Washington, D.C.: Government Printing Office, 1981).

10. Oregon Tax Research, Your Taxes 4 (November-December 1981).

11. Oregon Tax Research Your Taxes 1, 8 (April 1979).

12. For a discussion of the concept of and empirical findings related to "tax price," see Martin S. Feldstein, "Wealth Neutrality and Local Choice in Public Education," American Economic Review, 65 (March 1975), 75-89; Helen F. Ladd, "Local Education Expenditures, Fiscal Capacity and the Composition of the Property Tax Base," National Tax Journal, 28 (June 1975), 145-158; W. Norton Grubb and Stephen Michelson, States and Schools: The Political Economy of School Finance (Lexington, Massachusetts: Lexington Books, 1974), pp. 122-126, and Phillip E. Vincent and E. Kathleen Adams, Fiscal Responses of School Districts: A Study of Two States--Colorado and Minnesota (Denver, Colorado: Education Commission of the States, 1978), p. 5.

13. For a general discussion of incremental budgeting see Charles E. Lindblom, "The Science of 'Muddling Through,'" Public Administration Review, 19 (Spring 1959), 79-88; and Aaron Wildavsky, The Politics of the Budgetary Process, 2nd ed. (Boston: Little, Brown, and Co., 1974), p. 125. A description of Oregon's budgetary process illustrating its incremental nature is found in Richard B. Webb, "A Formal Model of Oregon's Budgetary Process: An Effort to Integrate Organizational and Environmental Explanations of Spending" (unpublished Ph.D. dissertation, University of Oregon, 1977).

    Evidence of the strong influence of the prior year's budget on the current year's budget is reported in Stephen M. Barro and Stephen J.

current year's budget is reported in Stephen M. Barro and Stephen J. Carroll, Budget Allocation by School Districts: An Analysis of Spending for Teachers and Other Resources (Santa Monica, California: The Rand Corporation, 1975), p. 95.

14. In 1980-81, salaries represented 60% of total current general fund expenditures by Oregon school districts. Benefits were another 17% giving a total of 77% of school district budgets that are allocated for personnel-related expenditures.

15. Ladd, "Local Education Expenditures," pp. 145-58; and Grubb and Michelson, States and Schools, pp. 117-21.

16. Extension Service, "Oregon's 6 Percent Limitation," Extension Circular 906 (Corvallis, Oregon: Extension Service, Oregon State University, June, 1977).

17. George F. Break, Financing Government in a Federal System (Washington, D.C.: The Brookings Institute, 1980), p. 92.